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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/261,081	03/02/1999	KENNETH SOOHOO	17201-706	7286

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EXAMINER
GOOD JOHNSON, MOTILEWA

ART UNIT	PAPER NUMBER
2672	

DATE MAILED: 12/16/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/261,081	SOOHOO, KENNETH	
	Examiner	Art Unit	
	Motilewa A. Good-Johnson	2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 July 2002* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *16-68* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *16-68* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. This action is responsive to communications: application, filed on 03/02/1999; IDS, paper #4, filed on 04/21/1999; IDS, paper #5, filed on 09/29/2000; IDS, paper #10, filed on 02/05/2001; Amendment A, filed on 02/05/2001; Amendment B, filed on 05/14/2001; Preliminary Amendment C, filed on 09/17/2001; Amendment D, filed on 07/30/2002.

This action is made final.

2. Claims 16-68 are pending in the case. Claims 16, 30, 39, 50, 56 and 68 are independent claims. Claims 16, 30, 39, 50 and 56 have been amended. Claims 1-16 have been canceled. New claims 66-68 have been added.

3. The present title of the application is "Anti-Aliasing System and Method" (as originally filed).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 16-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishida in view of Kumazaki et al., U.S. Patent Number 5,555,360.

As per independent claim 16, **a system for display a character . . . comprising: logic that renders a bit map corresponding to a vector representation . . . ; logic that causes the logic that renders to render a bit map . . . wherein various bits in a respective portion of the bit map correspond to a pixel; and . . . different bits correspond to different locations on the character;** Nishida discloses a display device having a divisional level represented by bit or bits recognizable by the address information for the divisional level, bit map, col. 3, lines 21-30 **. . . determines luminance for corresponding pixels; and logic that causes the character to be displayed in the region . . .** Nishida discloses state in which the operations turn on the bulb in the predetermined luminance values, col. 19, lines 1-21.

However, it is noted that Nishida fails to disclose a vector representation of the bit map. Kumazaki et al. discloses an antialiasing system for determining the luminance of the edge pixels using vector data for antialiasing image data, col. 2, lines 20-56. It would have been obvious to one of ordinary skill in the art at the time of the invention to include in the bit map representation disclosed in Nishida the vector representation for character and graphics data as disclosed in Kumazaki, because in antialiasing vector image processing techniques produce smoother edge portions of output images than in a bit map.

With respect to dependent claims 17-19 respectively, **. . . the number of bits in the bit map is at least twice (four times; ten times) as great as the number of**

pixels in the region. Nishida discloses powers of 2 to define the divisional modes, col. 3, lines 3-15.

With respect to dependent claims 20 and 21, . . . **wherein the vector representation of the character comprises a character defined in accordance with a page description language (. . . type 1 page description language).** However it is noted Nishida fails to disclose page description language. Kumazaki et al. discloses page description language to describe the contents of an image, col. 2, lines 38-45. It would have been obvious to one of ordinary skill in the art at the time of the invention of Nishida to include page description language disclosed in Kumazaki to define the vector text and graphic representation regions for printing.

With respect to dependent claim 22, . . . **a respective portion of the bit map includes at least four sequential bits in a memory.** Nishida discloses in figure 16A, element 210 four sequential bits.

With respect to dependent claim 23, . . . **logic . . . uses a table to determine the number of bits on in the subset, and adding the number of bits on for all subsets of bits . . .** Nishida discloses in figures 21C, logic to determine the number of bits on. It would have been obvious to one of ordinary skill in the art at the time of the invention to include a table for determining bits on in the subset, for it is well know in the art to implement tables for faster rendering and to reduced bandwidth.

With respect to dependent claims 24-27, . . . **the display comprising a (television; color television; display of hand held device; billboard.)** Nishida discloses display devices such as attached on a wall, col. 1, lines 4-7.

With respect to dependent claim 28 and 29, . . . **logic for communication with the Internet; web browser logic.** However, it is noted that Nishida fails to disclose communication with the Internet and web browser logic. Kumazaki discloses a receiving/transmitting in the input output unit, col. 10, lines 1-21. It would have been obvious to one of ordinary skill in the art at the time of the invention of Nishida to include logic for communicating with the Internet and web browsers as disclosed in Kumazaki to provide display capabilities for every pixel element of characters or picture in an entire display area.

As per independent claim 30 and dependent claims 31-33, they are rejected based upon similar rational as above independent claim 16 and dependent claims 2, 5 and 7 respectively.

Cancelled

With respect to dependent claim 31, . . . **determining luminance comprises counting a number of bits on in the portion of the bit map corresponding to a pixel.** Nishida discloses a number of bits larger than the divisional level of the display for displaying the shape to be displayed, col. 11, lines16-67. Nishida discloses display signals corresponding to the resolutions of display devices to select commands to display the picture at a corresponding resolution of the divisional level, col. 22, lines 49-67.

With respect to dependent claims 32 and 33, **the size larger . . . is at least (ten times) twice as wide as the particular size.** Nishida discloses display signals corresponding to the resolutions of display devices to select commands to display the picture at a corresponding resolution of the divisional level, col. 22, lines 49-67.

With respect to dependent claim 34, . . . **the shape comprises a character.** Nishida discloses in figure 21A.

With respect to dependent claims 35-38, see above rejection for dependent claims 24-26 and 28 respectively.

As per independent claims 39, 50, and 56 they are rejected based upon similar rational as above independent claim 16 respectively.

With respect to dependent claims 42, 43, and 46-49, they are rejected based upon similar rational as above dependent claims 17, 19, 22-23, 28 and 29 respectively

With respect to dependent claims 40 and 41, . . . **the television signal comprises a (terrestrial television broadcast signal; cable television signal.)** Nishida discloses in col. 21, lines 1-10, said invention can be used to carry out moving picture display. It would have been obvious to one of ordinary skill in the art to display anti-aliased characters on a television comprising differing signals in that the memory of a television display is unaffected.

With respect to dependent claims 51, 52, 54 and 55, they are rejected based upon similar as above dependent claims 17, 18, 28 and 29 respectively.

With respect to dependent claims 57-59, . . . **the attribute comprises (hue; saturation; luminance.)** Nishida discloses in col. 19, lines 1-21, luminance attributes. It would have been obvious to one of ordinary skill in the art to implement other display attributes in the luminous display signal of Nishida, because other signals would contribute to the final display and thus providing an accurate display of the display device.

With respect to dependent claims 60-62 and 64-65, they are rejected based upon similar rational as above dependent claims 17, 18, 24 and 28 respectively.

With respect to dependent claims 66 and 67, logic that renders the bit map is not particularly adapted to be used with the logic that determines luminances. Nishida discloses signals for the display devices having different resolution and storing commands to deliver commands from the control unit for divisional levels and displaying different resolution of the divisional levels, col. 22, lines 49-67, separate from the instructions for determining luminance, col. 19, lines 1-21.

As per independent claim 68, a method of display a set of characters, the method comprising: in a system having a specific hardware device that has a specific resolution, receiving a command to generate the character; if the character has already been processed and is available in a cache, displaying the character, if the character has not already been processed, taking the resolution of the hardware display device into consideration . . . Nishida discloses a number of bits larger than the divisional level of the display for displaying the shape to be displayed, col. 11, lines 16-67. Nishida discloses display signals corresponding to the resolutions of display devices to select commands to display the picture at a corresponding resolution of the divisional level, col. 22, lines 49-67. However, it is noted that Nishida fails to disclose a cache for storing characters already processed. Nishida discloses memory, figure 9. It would have been obvious to one of ordinary skill in the art at the time of the invention to include storing processed characters to deliver high speed operations.

Response to Arguments

6. Applicant's arguments filed 07/30/2002 have been fully considered but they are not persuasive.

Applicant argues that Nishida fails to disclose a system with a display having a particular number of pixels and logic that renders a bit map having a number of bits greater than the number of pixels. Nishida discloses in col. 1, lines 51-53, that pixels are necessary for improvement of display resolution. Applicant also argues that Nishida teaches a display signal not associated with a particular device. It is well known in the art that for an image to be displayed on a display device, the display attributes are necessary for displaying the image accurately. Examiner thus disagrees with the Applicants ascertains that Nishida teaches a generic display without taking in consideration the display device and the number of pixels in the region of the display for the image to be displayed. Nishida discloses in col. 2, lines 38-65 a control unit, which delivers to the controller display signal information and also wherein the controller executes a display operation indicated by address information indicated by data information for a particular block where the pixel arrangement is to be obtained.

Applicant further argues that Nishida fails to disclose a vector representation of the character and that one would not be motivated to combine the teachings of Kumazaki with Nishida. Nishida and Kumazaki both teach anti-aliasing of images. One of ordinary skill in the art would be motivated by the combination of vector data defined in Kumazaki to the anti-aliasing disclosed in Nishida to achieve superior image quality and achieve a higher speed.

Applicant argues that Nishida fails to disclose the shape to be displayed on a particular size on a display and that the bit map has a size larger than the particular size. Nishida discloses a number of bits larger than the divisional level of the display for displaying the shape to be displayed, col. 11, lines 16-67. Applicant states that the reference fails to take the resolution of the device body into consideration. Nishida discloses display signals corresponding to the resolutions of display devices to select commands to display the picture at a corresponding resolution of the divisional level, col. 22, lines 49-67.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

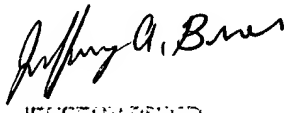
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Motilewa A. Good-Johnson whose telephone number is (703) 305-3939. The examiner can normally be reached on Monday - Friday 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Razavi can be reached on (703) 305-4713. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

Motilewa A. Good-Johnson
Examiner
Art Unit 2672

mgj
December 6, 2002



JEFFERY BRIER
PRIMARY EXAMINER